

REMARKS

The following remarks are fully and completely responsive to the Office Action dated July 16, 2003. Claims 1-14, 20, 21, and 23-25 are pending in this application. In the outstanding Office Action claims 1-4, 6-9, and 23-25 were rejected 35 U.S.C. § 102(e) and claims 5, 10-12 were rejected under 35 U.S.C. § 103(a) (three different rejections). No new matter has been added. Claims 1-12 and 23-25 are presented for consideration. Claims 13, 14, 20, and 21 have been allowed.

35 U.S.C. §§ 102(e) and 103(a)

Claims 1-4, 6-9 and 23-25 were rejected under 35 U.S.C. § 102(e) as being anticipated by Lipton (U.S. Patent No. 5,193,000). In making this rejection, the Examiner asserts that this reference teaches each and every element of the claimed invention.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipton (U.S. Patent No. 5,193,000) in view of Tahara (U.S. Patent No. 5,633,682). Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipton (U.S. Patent No. 5,193,000). Claims 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lipton (U.S. Patent No. 5,193,000) in view of Kondo (U.S. Patent No. 6,304,243). In making these rejections, the Examiner asserts that the combination of these references teaches and/or suggests each and every element of the claimed invention.

Regarding claims 1-12, claim 1 recites, in part, determining means for detecting characteristic of the video data received by said receiving means, and for determining

whether said video data is video data in accordance with a stereoscopic broadcasting method in response to the result of detection.

Independent claims 7 and 8 each contain similar means-plus-function limitations.

Regarding claims 1-12, the Office Action asserts that Lipton teaches and/or suggests a this claim element. To support this rejection, the Office Action only cites Lipton at column 5, lines 49-51.

The inventive system can also produce a two projector stereoscopic display, or two channels of independent non-stereoscopic (planar) displays.

In order to anticipate a means-plus-function claim element, the reference must teach the claimed function. If the reference teaches the function, then the reference must also teach the same or equivalent structure used to perform the recited function.

A careful review of Lipton, however, indicates that this reference fails to treat a signal containing a non-stereoscopic signal any different than it treats a stereoscopic signal. Thus, Lipton does not need, and consequently fails to teach, the function of "detecting characteristic of the video data received by the receiving means and determining whether the video data is video data in accordance with a stereoscopic broadcasting method in response to the result of detection."

Lipton teaches a multiplexing technique for a stereoscopic video system. This system takes a signal from camera A and a signal from camera B and compresses each signal in the horizontal direction by approximately 50% and then multiplexes the two signals together to create a signal that requires the same bandwidth as a standard NTSC or PAL broadcast signal. This signal, when displayed on a conventional non-stereoscopic monitor, results in image pairs that are digitally squeezed and located side-by-side on the

monitor. When the signal is played back on a stereoscopic monitor and the user wears a selection device 305, then the user can view the stereoscopic video image.

Figure 4 illustrates an embodiment where display controller 402 receives a multiplexed signal and processes the signal to produce two parallel channels of left and right picture information. The viewer, using a polarizing spectacle selection device 410a and looking at a screen 410 that receives the light from projectors 403 and 404, can view a stereoscopic video signal.

Figure 5 of Lipton illustrates an embodiment where, instead of multiplexing signals from cameras A and B to create a stereoscopic image, two different video signals (e.g., channel 1 and channel 2) are multiplexed together such that the two video signals may be sent in the bandwidth normally required for a single channel signal NTSC or PAL signal. This multiplexed signal is processed in display controller 505 (using the same circuitry as display controller 402) to produce two separate video signals, one which is displayed on monitor A and the second displayed on monitor B.

In fact, Lipton, at column 16, lines 40-45, states that:

The playback controller of FIG. 10 is designed to support a second output stage for the purpose of providing independent channels A and B for display of left and right channels on two projectors, as shown in FIG. 4, or two programs on individual monitors, as shown in FIG. 5.

Since the signal processing used in the embodiment of Figure 5 of Lipton is the same as that utilized in the embodiment shown in Figure 4, Lipton does not need, and consequently fails to disclose, the function of "detecting characteristic of the video data and determining whether the video data is video data in accordance with a stereoscopic broadcasting method in response to the result of detection." Accordingly, Lipton fails to

disclose and/or suggest the determining means for detecting characteristic of the video data and determining whether the video data is video data in accordance with stereoscopic broadcasting method in response to the result of detection. Therefore, Applicants request reconsideration and withdrawal of the rejection of claims 1-12 under 35 U.S.C. §§ 102(e) and 103(a).

Claim 23 recites in part a video signal processing means for forming video data of one channel by ranging an uncompressed image corresponding to a first video signal and an uncompressed image corresponding to a second video signal different from each other, divided into upper and lower portions of one image plane.

Claims 24 and 25 recite similar means-plus-function elements.

In order to anticipate a means-plus-function claim element, the reference must teach the claimed function. If the reference teaches the function, then the reference must also teach the same or equivalent structure used to perform the recited function.

Regarding claims 23, 24 and 25 it appears that Lipton, in the Background section at column 1, beginning at line 52, teaches a video data apparatus that uses the image format shown in Figure 8. This figure illustrates above-and-below subfields 802 and 803, respectively, that are located within a single video field 801.

In Lipton, each subfield 802 and 803 is the result of compressing each video signal vertically so that two video signals could utilize the bandwidth of a single channel. This vertical compression results in a degradation of the transmitted image.

Similarly, Lipton also teaches that before multiplexing the two channels of picture information into one channel of picture information by multiplexer 124 in Fig. 1C, each

channel of picture information is horizontally compressed to one half by compression means 122 or 123 in Fig. 1C.

In contrast, the present claims use uncompressed images, thus, no data compression is carried out before multiplexing so that picture information after multiplexing has two channels of picture information (twice as large as that of the Lipton reference).

Furthermore, according to the present invention, the picture information formed by multiplexing two pictures is transmitted while being compressed (for example, in MPEG format). The following advantage results from transmitting picture information while being compressed after multiplexing. Specifically, the case is assumed in which one channel of picture information is transmitted with the transmission rate of 6Mbps. If two channels of picture information are transmitted independently from each other in such case, the transmission rate of $6\text{Mbps} \times 2 = 12\text{Mbps}$ is required. According to the system of the present invention in which picture information is compressed and transmitted after multiplexing of two channels of picture information and the received picture information is decompressed and separated, it is possible to transmit picture information in the transmission rate of approximately 8Mbps, with quality equal to independent transmission of $6\text{Mbps} \times 2$.

Lipton fails to teach and/or suggest the invention recited in claims 23-25. Specifically, Lipton fails to disclose and/or suggest the function of forming video data of one channel by arranging an uncompressed image corresponding to a first video signal and an uncompressed image corresponding to a second video signal different from each other, divided into upper and lower portions of one image plane. Accordingly, Lipton fails to teach and/or suggest the video signal processing means recited in claims 23 and 25.

Lipton also fails to teach and/or suggest the video data recited in claim 24. Therefore, Applicants request reconsideration and withdrawal of the rejection of claims 23-25 under 35 U.S.C. § 102(e).

Conclusion

Applicants' remarks have overcome the rejections set forth in the Office Action dated July 16, 2003. Applicants' remarks have distinguished claims 1-4, 6-9 and 23-25 from Lipton and thus overcome the rejection of these claims under 35 U.S.C. § 102(e). Applicants' remarks have also distinguished claim 5 from the combination of Lipton and Tahara and thus overcome the rejection of this claim under 35 U.S.C. § 103(a). Applicants' remarks have also distinguished claim 10 from Lipton and thus overcome the rejection of this claim under 35 U.S.C. § 103(a). Applicants' remarks have also distinguished claims 11 and 12 from the combination of Lipton and Kondo and thus overcome the rejection of these claims under 35 U.S.C. § 103(a). Accordingly, claims 1-12 and 23-25 are in condition for allowance. Therefore, Applicants respectfully request consideration and allowance of claims 1-12 and 23-25. Claims 13, 14, 20 and 21 have been allowed.

Applicants submit that the application is in condition for allowance. If the Examiner believes that the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney by telephone, if it is believed that such contact will expedite the prosecution of the application.

In the even that this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, referencing attorney docket number 100806-09022.

Respectfully submitted,



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